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The Total Economic Impact™ Of DMExpress

Single Company Analysis — Data Warehousing:
Database Marketing, Customer Data Integration
And Analytics

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The Total Economic Impact™ Of Syncsort DMEExpress

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Executive Summary

In June 2008, Syncsort commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) that enterprises may realize by deploying DMEExpress. DMEExpress is Syncsort's high-speed data integration solution to data management performance challenges. DMEExpress speeds extract, transform, and load (ETL), data warehousing, business intelligence (BI), and other large volume applications by integrating data from multiple, heterogeneous sources and transforming and aggregating the data at high speeds to create consolidated views for reporting, analysis, and other downstream applications. This study illustrates the financial impact of implementing DMEExpress for a database marketing company who needed a data integration tool to replace its legacy systems and mainframe processes and to enhance its existing data integration solutions and custom code due to client demand and its changing business environment.

In conducting in-depth interviews with this existing Syncsort DMEExpress customer, Forrester found that this company achieved reduced costs through productivity savings, avoided hiring costs because of ease of use of the product, and improved process performance leading to incremental revenue through client retention.

Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of DMEExpress on their organizations. Forrester's aim is to clearly show all calculations and assumptions used in the analysis. Readers should use this study to better understand and communicate a business case for investing in Syncsort DMEExpress.

Methodology

Syncsort selected Forrester for this project because of its industry expertise in data management and data integration, including ETL, as well as Forrester's Total Economic Impact™ (TEI) methodology. TEI not only measures costs and cost reduction (areas that are typically accounted for within IT) but also weighs the enabling value of a technology in increasing the effectiveness of overall business processes.

For this study, Forrester employed four fundamental elements of TEI in modeling DMEExpress:

1. Costs and cost reduction.
2. Benefits to the entire organization.
3. Risk.
4. Flexibility.

Given the increasing sophistication that enterprises have regarding cost analyses related to IT investments, Forrester's TEI methodology serves an extremely useful purpose by providing a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

Approach

Forrester used a four-step approach for this study:

1. Forrester gathered data from existing Forrester research relative to Syncsort DMEExpress and the data management and ETL markets in general.
2. Forrester interviewed Syncsort marketing, engineering, customer service, and sales personnel to fully understand the potential (or intended) value proposition of Syncsort DMEExpress solutions.
3. Forrester conducted a series of in-depth interviews with an organization currently using Syncsort DMEExpress solutions.
4. Forrester constructed a financial model representative of the interviews. This model can be found in the TEI Framework section below.

Key Findings

Forrester's study yielded following key findings:

- **ROI.** Based on the interviews with an existing Syncsort customer, Forrester constructed a TEI framework for the organization and the associated ROI analysis illustrating the financial impact areas. As seen in Table 1, the ROI for the company is 105% with a breakeven point (payback period) of a little over one month after deployment.
- **Benefits.** The database marketing company quantified benefits it received for its DMEExpress implementation through productivity savings, hiring cost avoidance for senior developers and data processing staff, and incremental revenue from client retention due to improved performance.
- **Costs.** The main costs associated with implementing DMEExpress are the cost of server and workstation licenses, associated maintenance and services, and additional hardware. Minimal cost was also incurred by the organization in terms of initial implementation and internal training.

Table 1 illustrates the risk-adjusted cash flow for the composite organization, based on data and characteristics obtained during the interview process. Forrester risk-adjusts these values to take into account the potential uncertainty that exists in estimating the costs and benefits of a technology investment. The risk-adjusted value is meant to provide a conservative estimation, incorporating any potential risk factors that may later impact the original cost and benefit estimates. For a more in-depth explanation of risk and risk adjustments used in this study, please see the Risk section.

Table 1: ROI, Risk-Adjusted

Summary financial results	Risk-adjusted
ROI	105%
Payback period	1.2 months
Total costs (PV)	(\$3,170,935)
Total benefits (PV)	\$6,496,153
Total (NPV)	\$3,325,218

Source: Forrester Research, Inc.

Disclosures

The reader should be aware of the following:

- The study is commissioned by Syncsort and delivered by the Forrester Consulting group.
- Syncsort reviewed and provided feedback to Forrester, but Forrester maintained editorial control over the study and its findings and did not accept changes to the study that contradicted Forrester's findings or obscured the meaning of the study.
- The customer names for the interviews were provided by Syncsort.
- Forrester makes no assumptions as to the potential return on investment that other organizations will receive. Forrester strongly advises that readers should use their own estimates within the framework provided in the report to determine the appropriateness of an investment in Syncsort DMExpress.
- This study is not meant to be used as a competitive product analysis.

Syncsort DMExpress: Overview

According to Syncsort, DMExpress is a high-speed data integration solution to data management performance challenges. DMExpress accelerates ETL, data warehousing, BI, and other large volume applications. For UNIX, Windows, and Linux, DMExpress integrates disparate data from multiple, heterogeneous sources. It transforms and aggregates the data at high speed to create consolidated views for reporting, analysis, or other downstream applications.

When dealing with large data volumes, DMExpress replaces long running processes so that applications run faster. In addition to speeding application processing, DMExpress technology uses less CPU and memory resources. If you have high volumes of data, small processing windows, and users/customers that require timely business intelligence, DMExpress can reduce your hardware and software investments with increases in your return. With hours, even days saved, and a lower total cost of ownership, DMExpress adds tangible dollar value to your organization's core business processes.

Inefficient data integration solutions impact downstream service levels. The problem is felt where business analytics are required and where timely information is needed for transactions, sales activities, inventory control, billing, and reporting to support key business initiatives around legacy migrations, clickstream processing CRM, BI, CDI, database marketing, MDM, M&A, and all applications integral to or surrounding your data warehouse environment, etc.

According to Syncsort, DMExpress integrates a suite of technologies, backed by over seventeen patents, engineered to reduce processing time via:

- Proprietary algorithms.
- Cutting edge data handling methods.
- Dynamic optimization.
- Fast I/O.
- Parallel processing.

In Syncsort's view, the ultimate benefit of DMExpress is the rapid availability of data for critical BI applications. By inserting DMExpress at key points in your job flow, Syncsort contends that you can drastically speed time-intensive processes and meet the performance challenges you face in areas such as:

- Changed data capture (delta processing),
- Horizontal data pivot,
- Multi-level hierarchical aggregation,
- Join/lookup Web log processing,
- Data standardization, cleansing, and validation,
- Data warehousing, database, and batch loads,

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- Data mining,
- Customer relationship management,
- BPM, EAI, SOA, data federation, and
- OLTP systems.

With DMExpress Services, Syncsort also provides tiered offerings around training, support, and professional services that provide additional ROI to their customers' software investments.

Analysis

As stated in the Executive Summary, Forrester took a multistep approach to evaluate the impact that implementing DMEExpress can have on an organization:

- Gathering data from existing Forrester research and analyst insights relative to Syncsort's product and the market for these data management technologies in general.
- Interviews with Syncsort marketing, sales, engineering, and customer service personnel.
- In-depth interviews with an organization currently using DMEExpress.
- Construction of a financial framework for the implementation of DMEExpress.

Interview Highlights

The in-depth interviews uncovered several key points that drove the analysis:

- The interviewed organization is a leading database marketing company based in the United States with over 900 employees. This direct marketing company serves Fortune 500 companies and nonprofit organizations by providing strategic consulting, database services, content solutions, analytical services, and creative and production services.
- When one of its clients expressed a need for a faster way to manipulate its proprietary data before transferring the information to databases, the company evaluated a number of data integration tools. Based on the qualities of processing speed, growth, scalability, ease of use, deployment timeline, tech support, and cost of ownership, the organization chose to use Syncsort's DMEExpress to replace the mainframe processes it had been using for data processing and manipulation for that particular client.
- These processes included such data manipulation as address cleansing within multiple massive databases to produce clean versions for its clients.
- The company then expanded the use of DMEExpress to other clients whose projects ran on mainframes and now required faster data manipulation. The company has also since integrated Syncsort's DMEExpress into the in-house process on its marketing technology platform that it uses for all of its clients.
- Due to the company's client requirement for data security and confidentiality, the database marketing company purchased a server license and separate server for each client. The organization noted that its hardware and license requirements may not be the typical case for other organizations that do not have these particular client requirements.
- The company noted the ease of training its personnel on DMEExpress. The organization had the ability to "get people up to speed on DMEExpress very, very quickly." Ease of use also allowed it to expand DMEExpress from its developers to its data processing team. DMEExpress is now part of its company university's core curriculum.

- The company purchased both server and workstation DMExpress licenses with the Advanced Data Modules. Additional modules that the company purchased include ODBC (source and target), SQL Server (source and target) and Oracle (source and target).

TEI Framework

Introduction

From the information provided in the customer interviews, Forrester has constructed a TEI framework for those organizations considering implementation of Syncsort's DMExpress. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that impact the investment decision.

Framework Assumptions

Table 2 lists the discount rate used in the PV and NPV calculations and time horizon used for the financial modeling.

Table 2: General Assumptions

Ref.	General assumptions	Value
	Discount rate	10%
	Length of analysis	Three years

Source: Forrester Research, Inc.

Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult with their finance department to determine the most appropriate discount rate to use within their own organizations.

In addition to the financial assumptions used to construct the cash flow analysis, Table 3 provides salary assumptions used within this analysis.

Table 3: Salary Assumptions

Ref.	Metric	Calculation	Value
A1	Hours per week		40
A2	Weeks per year		52
A3	Hours per year (M-F, 9-5)		2,080
A4	Hours per year (24*7)		8,736

Source: Forrester Research, Inc.

Costs

Costs for the DMExpress solution for the customer profiled in this case study include the DMExpress server and workstation licenses as well as associated maintenance and services fees. Also included are hardware costs, implementation costs, and training fees.

DMExpress License Fees

A single DMExpress server license bundled with five workstation licenses costs \$40,000. The organization had purchased 33 of these bundled licenses at the time of the analysis. The total cost for DMExpress license fees are \$1,320,000 with the company purchasing 13 licenses by the end of the first year and 10 licenses each year for the next two years.

Forrester believes this company's licensing requirements to be more extensive than the average since its security requirement of a dedicated server for each client required additional licenses per server as well. Many organizations may not require these extra licenses.

DMExpress Maintenance And Services

This analysis applies a standard 20% multiplier to software license fees to account for annual maintenance and services fees for DMExpress that the organization incurred over three years. This comes to \$584,000 over a three-year analysis.

Hardware Costs

Due to the confidential and proprietary nature of its client projects as well as the amount of processing required for each project, the database marketing company chose to segregate client data into individual servers. The organization chose to purchase additional servers for each DMExpress server license. However, the company's lead application developer noted that he has worked with other companies that did not have the same security and processing requirements as the direct marketing company, and those companies did not have to buy separate servers for each DMExpress project. These other companies could install DMExpress on existing SQL Server or Oracle servers.

Forrester notes that organizations that do not share the same strict security requirements for partitioning sensitive data on separate servers as done by the database marketing company will not necessarily incur the same high levels of hardware expense for their implementation of DMExpress.

With 33 servers at an average hardware cost of \$50,000 per server, the total hardware costs for the database marketing company was \$1,650,000.

Implementation Costs

The company estimates that the costs of installing a single DMExpress license including hardware installation takes a total of 4 hours. This installation is conducted by help desk technicians at an annual FTE of \$60,000, which translates to a rate of \$28.85 per hour. With 165 licenses (33 server licenses and 165 workstation licenses), total installation costs are \$19,041. This is computed by multiplying 165 licenses by 4 hours by the hourly rate of \$28.85. Excluding hardware, the install time for DMExpress takes less than 10 minutes.

Internal Training Costs

Syncsort provides training for the DMExpress solution as part of its DMExpress services. The company noted that for other software investments, it would usually have to send its personnel on a

two-week training course. For DMEExpress, it noted that it was easy to get people “up to speed” on the product very quickly. However, the lead DMEExpress application developer does hold in-house training for the company and estimates that and other related one-on-one training takes about 2% of his time for a minimal \$2,000 cost per year.

Total Costs

Table 9 illustrates the upfront and ongoing costs associated with the investment in DMEExpress.

Table 4: Total Cost — Non-Risk-Adjusted

Costs	Initial	Year 1	Year 2	Year 3	Total
DMEExpress license fees	(160,000)	(360,000)	(400,000)	(400,000)	(1,320,000)
Maintenance and services	(32,000)	(104,000)	(184,000)	(264,000)	(584,000)
Hardware costs	(200,000)	(450,000)	(500,000)	(500,000)	(1,650,000)
Implementation costs	(19,041)				(19,041)
Internal training costs		(2,000)	(2,000)	(2,000)	(6,000)
Total costs	(\$411,041)	(\$916,000)	(\$1,086,000)	(\$1,166,000)	(\$3,579,041)

Source: Forrester Research, Inc.

Benefits

*“DMEExpress has automated our processing, eliminated downtime for files sitting around, and essentially increased our overall speed of implementation and processing data”
— Senior Application Developer, database marketing company*

According to the database marketing company, the main benefits of using DMEExpress were improved performance, ease of use, ease of training, and improved productivity.

- Reduced costs through productivity savings and ease of use.** By moving from a manual mainframe process to a faster and more automated data integration process using DMEExpress, the organization improved productivity of its current developers on staff and also avoided the cost of hiring additional developers to meet client demand. The ease of use of DMEExpress also allowed the organization to distribute work from the developer staff to staff in the data processing group at a lower overall cost to the organization. Productivity savings are estimated at around \$1.326M over a three-year analysis while the avoided cost savings of hiring developers and data processing staff is a combined \$1.725M.
- Improved performance leading to incremental revenue through client retention and acquisition.** The improved performance and speed of project implementation through DMEExpress has, according to the organization, “literally been able to help us retain clients.” The quicker turnaround time for project and project changes has also helped the company win clients in a business environment where speed is crucial. The organization

conservatively estimates DMEExpress influenced \$5M in incremental revenue through client retention.

Productivity Savings

Productivity savings from using DMEExpress are a result of two factors. First, using DMEExpress for processes that had previously run on the mainframe significantly shortened processing time and consequently decreased overall project completion time. The organization cited instances where a job that previously took 36 hours could now be completed in 20 minutes. Developers were no longer required to stay overnight to manually ensure their jobs ran successfully. Second, by using DMEExpress for data manipulation and integration instead of transforming data by writing custom SQL code, the organization was able to re-use code through DMEExpress open architecture and automate processes beyond the mainframe environment.

The organization estimated that this has saved its developers 4 hours a week, with 65 developers using DMEExpress at an average FTE of \$85,000. Forrester assumes that 80% of these productivity savings are captured. Total productivity savings for the organization come to \$1,326,000 annually.

Table 5: Productivity Savings

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Number of workers		65			
A2	Hourly rate per worker		\$40.87			
A3	Number of hours (saved per year)		208			
A4	Percent capture		80%			
At	Productivity savings	$A1 * A2 * A3 * A4$	\$442,000			
Ato	Total (original)		\$442,000	\$442,000	\$442,000	\$1,326,000

Source: Forrester Research, Inc.

Hiring Cost Avoidance

The advent of DMEExpress has allowed the database marketing company to establish production teams, giving each person in that team the ability to handle five or six clients simultaneously. With the year over year increase in clients, the organization estimates that because of DMEExpress, it has avoided the cost of hiring five senior developers. This translates to hiring cost savings of \$425,000 annually.

Table 6: Hiring Cost Avoidance — Senior Developers

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Number of workers		5			
A2	Yearly rate per worker		\$85,000			
Ato	Hiring cost avoidance — senior developers	A1 * A2	\$425,000	\$425,000	\$425,000	\$1,275,000

Source: Forrester Research, Inc.

Because of the ease of use of DMExpress, the organization has chosen to roll out DMExpress to its data processing group to write and run applications to handle repetitive tasks for their clients. The organization estimates that DMExpress has saved the organization an additional three hires to handle the workload in the data processing group. At a rate of \$50,000 per FTE, hiring cost savings for the organization are at \$150,000 per year.

Table 7: Hiring Cost Avoidance — Data Processing Staff

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Number of workers (saved)		3			
A2	Yearly rate per worker		\$50,000			
Ato	Hiring cost avoidance — data processing staff	A1 * A2	\$150,000	\$150,000	\$150,000	\$450,000

Source: Forrester Research, Inc.

Incremental Revenue Due To Improved Performance

“DMExpress has allowed us to win business by being able to show that we can quickly change processes and reprocess files in a very short time frame.”

— Application developer at a database marketing company

With the increasing demand for speed in client projects, the database marketing company turned to DMExpress to improve processing time for processes formerly run on the mainframe. The organization related instances where clients were retained because of the speed afforded by DMExpress that enabled the organization to support weekly updates or daily updates as its client required. The organization’s senior application developer also noted that the flexibility from DMExpress has “opened huge doors” for the organization with clients for whom “it’s about not only getting the data out, but how fast can I get that data out and change that data?”

The organization makes a conservative estimate of \$5 million in incremental revenue due to client retention through DMExpress. For this benefit category, the organization did not quantify incremental revenue from new business won through DMExpress.

Table 8: Incremental Revenue From Client Retention

Ref.	Metric	Year 1	Year 2	Year 3	Total
Ato	Incremental revenue from client retention	\$5,000,000	\$0	\$0	\$5,000,000

Source: Forrester Research, Inc.

Forrester strongly advises that readers use their own estimates particular to their projects and industry for the benefit category of incremental revenue due to client retention and new business to determine the expected financial impact of implementing DMEExpress within the framework of this study.

The organization’s expected total quantified benefits from DMEExpress are summarized in the table below.

Table 9: Total Benefits — Non-Risk-Adjusted

Benefits	Initial	Year 1	Year 2	Year 3	Total
Productivity savings		442,000	442,000	442,000	1,326,000
Hiring cost avoidance — senior developers		425,000	425,000	425,000	1,275,000
Hiring cost avoidance — data processing staff		150,000	150,000	150,000	450,000
Incremental revenue from client retention		5,000,000			5,000,000
Total		\$6,017,000	\$1,017,000	\$1,017,000	\$8,051,000

Source: Forrester Research, Inc.

Additional Benefits Not Quantified

The database marketing company identified the following benefits of using DMEExpress but was not able to quantify these benefits at this time.

Reduction In Project Time

The organization recounted instances where files that used to take 36 hours to run could be turned around by an application developer in twenty minutes with DMEExpress. Apart from faster processing time, the developers could also write and reuse code for DMEExpress faster than writing custom code using SQL or another similar programming language for data integration. This reduction in processing and development time translated to reduction in project time and project cost. While overall reduction in project cost is client dependent and project dependent, the organization estimates that potentially 10% of upfront file manipulation is saved using DMEExpress, with a potential 25% in reduced data integration project cost.

Improved Technical Support

The organization also cited the tech support provided by Syncsort as a benefit of using DMExpress. A senior application developer at the organization noted, "I cannot stress how good their tech support is." This is exemplified by Syncsort's ability to provide answers for all of the organization's questions as well as the responsiveness of the organization in tracking functionality requests and informing the organization if these requests are added to an upgrade or release.

Minimal Training Investment

The organization noted that, compared to other software investments by its company, DMExpress required minimal training. It was easy to get people "up to speed" on the product very quickly. A typical training consists of a 30-minute explanation of the basics of DMExpress, with personnel already using the tool by the end of half a day. This saves the organization training resources and also shortens overall roll-out time for the software implementation.

Risk

Risk is the third component within the TEI model; it is used as a filter to capture the uncertainty surrounding different cost and benefit estimates. If a risk-adjusted ROI still demonstrates a compelling business case, it raises confidence that the investment is likely to succeed because the risks that threaten the project have been taken into consideration and quantified. The risk-adjusted numbers should be taken as "realistic" expectations since they represent the expected values considering risk. In general, risks affect costs by raising the original estimates, and they affect benefits by reducing the original estimates.

For the purpose of this analysis, Forrester risk-adjusts cost and benefit estimates to better reflect the level of uncertainty that exists for each estimate. The TEI model uses a triangular distribution method to calculate risk-adjusted values. To construct the distribution, it is necessary to first estimate the low, most likely, and high values that could occur within the current environment. The risk-adjusted value is the mean of the distribution of those points.

For example, take the case of DMExpress license fees. The \$1,320,000 value used in this analysis can be considered the "most likely" or expected value. As mentioned earlier, DMExpress license fees vary based on the number, type, and service levels of the servers and workstations in the contract. This variability represents a risk that must be captured as part of this study. Forrester uses a risk factor of 120% on the high end, 100% as the most likely, and 100% on the low end. This has the effect of increasing the cost estimate to take into account the fact that original cost estimates are more likely to be revised upward than downward. Forrester then creates a triangular distribution to reflect the range of expected costs with 107% as the mean (107% is equal to the sum of 120%, 100%, and 100% divided by three). Forrester applies this mean to the most likely estimate, \$1,320,000 to arrive at a risk-adjusted value of \$1,412,400.

Forrester believes this company's licensing requirements to be more extensive than the average since its security requirement of a dedicated server for each client required additional licenses per server as well. Many organizations may not require these extra licenses.

Risk adjustments for costs generally increase cost estimates while risk adjustments for benefits reduce the original benefits estimates.

The following risks were considered in the study:

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- **Software risk.** Forrester risk-adjusted for uncertainty in software license fees estimates. This subsequently affects computations for software maintenance.
- **Hardware risk.** Forrester risk-adjusted for uncertainty in server estimates as the number of servers, or CPUs, that an organization will purchase will vary depending on that particular organization's needs.
- **Labor risk.** Forrester risk-adjusted for uncertainty in the magnitude of productivity savings as there is uncertainty involved in directly translating hours saved through faster processing to productivity of personnel. The risk adjustment also takes into consideration the possibility that the organization might have to code additional functionality to customize DMEExpress resulting in fewer overall hours saved.
- **Incremental risk.** Forrester risk-adjusted for uncertainty in the probability and magnitude of incremental revenue from client retention due to improved performance as this can greatly vary depending on each project.

The following tables show the values used to adjust for uncertainty in cost and benefit estimates. Different cost and benefits estimates have different levels of risk adjustments. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

Table 10: Risk Factors — Costs

Costs	Original estimate	Low	High	Mean
DMEExpress license fees	100%	100%	120%	107%
Maintenance and services	100%	100%	120%	107%
Hardware costs	100%	100%	110%	103%
Implementation costs	100%	100%	100%	100%
Training fees	100%	100%	100%	100%

Source: Forrester Research, Inc.

Table 11: Risk Factors — Benefits

Benefits	Original estimate	Low	High	Mean
Productivity savings	100%	90%	100%	97%
Hiring cost avoidance — senior developers	100%	100%	100%	100%
Hiring cost avoidance — data processing staff	100%	100%	100%	100%
Incremental revenue from client retention	100%	65%	100%	88%

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Source: Forrester Research, Inc.

These risk factors are applied to the benefits and costs listed earlier resulting in the cost and benefit values in Tables 12 and 13 below.

Table 12: Total Costs — Risk Adjusted

Costs	Step 1:			Step 2:	Value
	Original estimate	Low	High	Risk adjustment %	
DMEExpress license fees	\$1,320,000	\$1,320,000	\$1,584,000	107%	\$1,412,400
Maintenance and services	\$584,000	\$584,000	\$700,800	107%	\$624,880
Hardware costs	\$1,650,000	\$1,650,000	\$1,815,000	103%	\$1,699,500
Implementation costs	\$19,041	\$19,041	\$19,041	100%	\$19,041
Training fees	\$6,000	\$6,000	\$6,000	100%	\$6,000

Source: Forrester Research, Inc.

Table 13: Total Benefits — Risk-Adjusted

Costs	Step 1:			Step 2:	Value
	Original estimate	Low	High	Risk adjustment %	
Productivity savings	\$1,326,000	\$1,193,400	\$1,593,750	97%	\$1,286,220
Hiring Cost Avoidance — senior developers	\$1,275,000	\$1,275,000	\$1,275,000	100%	\$1,275,000
Hiring cost avoidance — data processing staff	\$450,000	\$450,000	\$450,000	100%	\$450,000
Incremental revenue from client retention	\$5,000,000	\$3,250,000	\$5,000,000	88%	\$4,400,000

Source: Forrester Research, Inc.

Flexibility

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for some future additional investment. Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

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Although data for calculating the value of several flexibility options is insufficient at this time, Forrester identified the following areas that present flexibility options for the organization:

- The point and click nature of the DMExpress GUI for coding allows the organization's developers to respond more quickly to clients' change requests and turnaround revised projects faster compared to coding these requests in SQL. Once more developers are trained in the DMExpress GUI, the organization estimates that future projects will benefit from this flexibility in implementing change requests.
- The cut and paste feature of the DMExpress GUI also gives the organization the ability to reuse code. As the number of projects using DMExpress increases, time saved due to re-used code from these projects will benefit the database marketing company.
- The value of flexibility is unique to each organization, and willingness to measure its value varies from company to company.

TEI Framework: Summary

Considering the financial framework constructed above, the results of the costs, benefits, risk, and flexibility sections using the representative numbers can be used to determine a return on investment, net present value, and payback period. The tables below show the consolidation of the numbers for the organization.

Table 14: Total Costs And Benefits, Non-Risk-Adjusted

Ref.	Project cash flow	Calc.	Initial cost	Year 1	Year 2	Year 3	Total	PV / NPV
A1	Total costs		(\$411,041)	(\$916,000)	(\$1,086,000)	(\$1,166,000)	(\$3,579,041)	(\$3,017,322)
A2	Total benefits			\$6,017,000	\$1,017,000	\$1,017,000	\$8,051,000	\$7,074,583
A3	Net savings			\$5,101,000	(\$69,000)	(\$149,000)	\$4,471,959	\$4,057,261
A4	ROI	(A2-A1) / A1						134%

Source: Forrester Research, Inc.

Tables 15 below show the risk-adjusted values, applying the risk adjustment method indicated in the Risks section.

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Table 15: Total Costs And Benefits, Risk-Adjusted

Ref.	Project cash flow	Calc.	Initial cost	Year 1	Year 2	Year 3	Total	PV / NPV
A1	Total costs		(\$430,481)	(\$961,980)	(\$1,141,880)	(\$1,227,480)	(\$3,761,821)	(\$3,170,935)
A2	Total benefits			5,403,740	1,003,740	1,003,740	7,411,220	6,496,153
A3	Net savings		(\$430,481)	\$4,441,760	(\$138,140)	(\$223,740)	\$3,649,399	\$3,325,218
A4	ROI	(A2-A1)/A1						105%

Source: Forrester Research, Inc.

It is important to note that values used throughout the TEI Framework are based on in-depth interviews with an organization that has implemented DMEExpress. Forrester makes no assumptions as to the potential return that other organizations will receive within their own environment. Forrester strongly advises that readers use their own estimates within the framework provided in this study to determine the expected financial impact of implementing DMEExpress.

Study Conclusions

- Based on information collected in interviews with a current DMEExpress customer, Forrester found that organizations can realize benefits in the form of productivity savings, hiring cost avoidance for senior developers and data processing staff, and incremental revenue from client retention due to improved performance.
- Organizations may also choose to expand their analysis by reviewing their own figures for the benefit area of project cost reduction due to a reduced project completion time that the database marketing company did not quantify at this time.
- DMEExpress and its DMEExpress Services offering are scalable and can be adjusted to an organization's needs. In this particular case, the organization scaled its implementation in such a way as each client had its own secure, proprietary server for its projects, which used DMEExpress.

The financial analysis provided in this study illustrates the potential way an organization can evaluate the value proposition of Syncsort's DMEExpress. Based on information collected in in-depth customer interviews, Forrester calculated a three-year risk-adjusted ROI of 105% for the organization with a payback period of less than two months. All final estimates are risk-adjusted to incorporate potential uncertainty in the calculation of costs and benefits.

Based on these findings, companies looking to implement DMEExpress can see cost savings, productivity benefits and improved process performance. Using the TEI framework, many companies may find the potential for a compelling business case to make such an investment.

Table 15: ROI, Original And Risk-Adjusted

Summary financial results	Original estimate	Risk-adjusted
ROI	134%	105%
Payback period (months)	1	1.2
Total costs (PV)	(\$3,017,322)	(\$3,170,935)
Total benefits (PV)	\$7,074,583	\$6,496,153
Total (NPV)	\$4,057,261	\$3,325,218

Source: Forrester Research, Inc.

Appendix A: Total Economic Impact™ Overview

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

The TEI methodology consists of four components to evaluate investment value: benefits, costs, risks, and flexibility. For the purpose of this analysis, the impact of flexibility was not quantified.

Benefits

Benefits represent the value delivered to the user organization — IT and/or business units — by the proposed product or project. Often product or project justification exercises focus just on IT cost and cost reduction, leaving little room to analyze the effect of the technology on the entire organization. The TEI methodology and the resulting financial model place equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization. Calculation of benefit estimates involves a clear dialogue with the user organization to understand the specific value that is created. In addition, Forrester also requires that there be a clear line of accountability established between the measurement and justification of benefit estimates after the project has been completed. This ensures that benefit estimates tie back directly to the bottom line.

Costs

Costs represent the investment necessary to capture the value, or benefits, of the proposed project. IT or the business units may incur costs in the forms of fully burdened labor, subcontractors, or materials. Costs consider all the investments and expenses necessary to deliver the proposed value. In addition, the cost category within TEI captures any incremental costs over the existing environment for ongoing costs associated with the solution. All costs must be tied to the benefits that are created.

Risk

Risk measures the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: the likelihood that the cost and benefit estimates will meet the original projections and the likelihood that the estimates will be measured and tracked over time. TEI applies a probability density function known as "triangular distribution" to the values entered. At a minimum, three values are calculated to estimate the underlying range around each cost and benefit.

Flexibility

Within the TEI methodology, direct benefits represent one part of the investment value. While direct benefits can typically be the primary way to justify a project, Forrester believes that organizations should be able to measure the strategic value of an investment. Flexibility represents the value that can be obtained for some future additional investment building on top of the initial investment already made. For instance, an investment in an enterprisewide upgrade of an office productivity suite can potentially increase standardization (to increase efficiency) and reduce licensing costs. However, an embedded collaboration feature may translate to greater worker productivity if activated. The collaboration can only be used with additional investment in training at some future point in time. However, having the ability to capture that benefit has a present value that can be estimated. The flexibility component of TEI captures that value.

Appendix B: Glossary

Discount rate: The interest rate used in cash flow analysis to take into account the time value of money. Although the Federal Reserve Bank sets a discount rate, companies often set a discount rate based on their business and investment environment. Forrester assumes a yearly discount rate of 10% for this analysis. Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult their organization to determine the most appropriate discount rate to use in their own environment.

Net present value (NPV): The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

Present value (PV): The present or current value of (discounted) cost and benefit estimates given an interest rate (the discount rate). The PV of costs and benefits feed into the total net present value of cash flows.

Payback period: The breakeven point for an investment, or the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

Return on investment (ROI): A measure of a project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits minus costs) by costs.

A Note On Cash Flow Tables

The following is a note on the cash flow tables used in this study (see the Example Table below). The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1. Those costs are not discounted. All other cash flows in Years 1 through 3 are discounted using the discount rate shown in Table 2 at the end of the year. Present value (PV) calculations are calculated for each total cost and benefit estimate. Net present value (NPV) calculations are not calculated until the summary tables and are the sum of the initial investment and the discounted cash flows in each year.

Example Table

Ref.	Category	Calculation	Initial cost	Year 1	Year 2	Year 3	Total

Source: Forrester Research, Inc.

Appendix C: About The Project Manager

Michelle Salazar Consultant

Michelle Salazar is a consultant with Forrester's Total Economic Impact (TEI) consulting practice. The TEI methodology focuses on measuring and communicating the value of IT and business decisions and solutions as well as providing an ROI business case based on the costs, benefits, risks, and flexibility of investments.

Prior to joining Forrester, Michelle held leadership roles in operations, technology, and marketing in such large organizations as Shell Corporation and Avaya, Inc. At Shell, she was a product manager for LPG retail distribution initiatives as well as project lead for quality and information security at Shell Philippines. While working at Avaya, she led the inventory reduction program and consulted on various aftermarket operations projects. Michelle also came to Forrester with process improvement and account management experience in high growth start-ups in media and digital services.

Michelle holds a BS in Industrial Engineering from the University of the Philippines and an MBA from the MIT Sloan School of Management.